

CLAIMS AS AMENDED ON 8/18/03

What is claimed is:

Claims 1-94 were canceled.

95. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9 and a light chain framework region derived from the light chain of the HF-21/28 antibody.
96. (Previously presented) The humanized immunoglobulin of Claim 95 further comprising a constant region derived from a human constant region.
97. (Previously presented) The humanized immunoglobulin of Claim 96 wherein the human constant region is of the gamma type.
98. (Currently amended) The humanized immunoglobulin of Claim 95 wherein the antigen binding region comprises the three complementarity determining regions of the light chain variable region of monoclonal antibody 1D9 and the three complementarity determining regions of the heavy chain variable region of monoclonal antibody 1D9.
99. (Canceled)

100. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from a heavy chain of human origin.
101. (Previously presented) The humanized immunoglobulin of Claim 100 wherein said immunoglobulin can compete with murine monoclonal antibody 1D9 for binding to CCR2.
102. (Previously presented) The humanized immunoglobulin of Claim 100 wherein the heavy chain of human origin is the heavy chain of the human 4B4'CL antibody.
103. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and a suitable carrier.
104. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from a heavy chain of human origin, and a suitable carrier.

105. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9 and a heavy chain framework region derived from the heavy chain of the 4B4'CL antibody.
106. (Previously presented) The humanized immunoglobulin of Claim 105 further comprising a constant region derived from a human constant region.
107. (Previously presented) The humanized immunoglobulin of Claim 106 wherein the human constant region is of the gamma type.
108. (Currently amended) The humanized immunoglobulin of Claim 105 wherein the antigen binding region comprises the three complementarity determining regions of the light chain variable region of monoclonal antibody 1D9 and the three complementarity determining regions of the heavy chain variable region of monoclonal antibody 1D9.
109. (Canceled)
110. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from a light chain of human origin, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody.

111. (Previously presented) The humanized immunoglobulin of Claim 110 wherein said immunoglobulin can compete with murine monoclonal antibody 1D9 for binding to CCR2.
112. (Previously presented) The humanized immunoglobulin of Claim 110 wherein the light chain of human origin is the light chain of the human HF-21/28 antibody.
113. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody, and a suitable carrier.
114. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from a light chain of human origin, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody, and a suitable carrier.
115. (Previously presented) A humanized immunoglobulin light chain comprising CDR1, CDR2 and CDR3 of the light chain of monoclonal antibody 1D9 and a light chain framework region derived from a human light chain.
116. (Previously presented) The humanized immunoglobulin light chain of Claim 115 wherein the human light chain is the light chain of the HF-21/28 antibody.

117. (Previously presented) The humanized immunoglobulin light chain of Claim 115 comprising the variable region of SEQ ID NO: 9.
118. (Previously presented) A humanized immunoglobulin heavy chain comprising CDR1, CDR2 and CDR3 of the heavy chain of monoclonal antibody 1D9 and a heavy chain framework region derived from a human heavy chain.
119. (Previously presented) The humanized immunoglobulin heavy chain of Claim 118 wherein the human heavy chain is the heavy chain of the human 4B4'CL antibody.
120. (Previously presented) The humanized immunoglobulin heavy chain of Claim 118 comprising the variable region of SEQ ID NO: 10.
121. (Previously presented) A humanized immunoglobulin light chain comprising an amino acid sequence selected from the group consisting of:
- a) SEQ ID NO: 12;
 - b) SEQ ID NO: 13;
 - c) SEQ ID NO: 14; and
 - d) SEQ ID NO: 15.
122. (Previously presented) A humanized immunoglobulin heavy chain comprising an amino acid sequence selected from the group consisting of:
- a) SEQ ID NO: 17;
 - b) SEQ ID NO: 18;
 - c) SEQ ID NO: 19; and
 - d) SEQ ID NO: 20.
123. (Previously presented) A humanized immunoglobulin light chain encoded by a nucleic acid molecule comprising SEQ ID NO: 98.

124. (Previously presented) A humanized immunoglobulin heavy chain encoded by a nucleic acid molecule comprising SEQ ID NO: 97.
125. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises a variable region selected from the group consisting of SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14 and SEQ ID NO: 15, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from a heavy chain of human origin.
126. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9, and wherein said heavy chain comprises a variable region selected from the group consisting of SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19 and SEQ ID NO:20.
127. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin or fragment comprising a heavy chain and a light chain, wherein said light chain comprises a variable region selected from the group consisting of SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14 and SEQ ID NO: 15, and wherein said heavy chain comprises a variable region selected from the group consisting of SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19 and SEQ ID NO:20.
128. (Previously presented) A humanized immunoglobulin light chain having the amino acid sequence of SEQ ID NO: 106.

129. (Previously presented) A humanized immunoglobulin heavy chain having the amino acid sequence of SEQ ID NO: 104.
130. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising CDR1, CDR2 and CDR3 of the light chain of monoclonal 1D9 antibody and a framework region derived from a human light chain framework region, and a suitable carrier.
131. (Previously presented) A pharmaceutical composition according to Claim 130 wherein the human light chain framework region is the light chain framework region of the HF-21/28 antibody.
132. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising CDR1, CDR2 and CDR3 of the heavy chain of monoclonal 1D9 antibody and a framework region derived from a human heavy chain framework region, and a suitable carrier.
133. (Previously presented) A pharmaceutical composition according to Claim 132 wherein the human heavy chain framework region is the heavy chain framework region of the 4B4'CL antibody.
134. (Previously presented) A humanized immunoglobulin light chain comprising the amino acid sequence of SEQ ID NO: 12.
135. (Previously presented) A humanized immunoglobulin heavy chain comprising the amino acid sequence of SEQ ID NO: 17.

136. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a light chain comprising the amino acid sequence of SEQ ID NO: 12 and a heavy chain comprising the amino acid sequence of SEQ ID NO: 17.
137. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a light chain having the amino acid sequence of SEQ ID NO: 106 and a heavy chain having the amino acid sequence of SEQ ID NO: 104.
138. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a light chain comprising the amino acid sequence of SEQ ID NO: 12 and a heavy chain comprising the amino acid sequence of SEQ ID NO: 17, and a suitable carrier.
139. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a light chain having the amino acid sequence of SEQ ID NO: 106 and a heavy chain having the amino acid sequence of SEQ ID NO: 104, and a suitable carrier.
140. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9, a light chain framework region derived from the light chain of the HF-21/28 antibody, and a heavy chain framework region derived from the heavy chain of the 4B4'CL antibody.

141. (Previously presented) A humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody.
142. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9, a light chain framework region derived from the light chain of the HF-21/28 antibody, and a heavy chain framework region derived from the heavy chain of the 4B4'CL antibody, and a suitable carrier.
143. (Previously presented) A pharmaceutical composition comprising a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2) comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody, and a suitable carrier.
144. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9 and a light chain framework region derived from the light chain of the HF-21/28 antibody.

145. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from a heavy chain of human origin.
146. (Previously presented) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and a suitable carrier.
147. (Previously presented) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from a heavy chain of human origin, and a suitable carrier.
148. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody

1D9 and a heavy chain framework region derived from the heavy chain of the 4B4'CL antibody.

149. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from a light chain of human origin, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody.
150. (Previously presented) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody, and a suitable carrier.
151. (Previously presented) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from a light chain of human origin, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody, and a suitable carrier.

152. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises a variable region selected from the group consisting of SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14 and SEQ ID NO: 15, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from a heavy chain of human origin.
153. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9, and wherein said heavy chain comprises a variable region selected from the group consisting of SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19 and SEQ ID NO:20.
154. (Currently amended) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises a variable region selected from the group consisting of SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14 and SEQ ID NO: 15, and wherein said heavy chain comprises a variable region selected from the group consisting of SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19 and SEQ ID NO:20.
155. (Currently amended) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising CDR1, CDR2

and CDR3 of the light chain of monoclonal 1D9 antibody and a framework region derived from a human light chain framework region, and a suitable carrier.

156. (Previously presented) A pharmaceutical composition according to Claim 155 wherein the human light chain framework region is the light chain framework region of the HF-21/28 antibody.
157. (Currently amended) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising CDR1, CDR2 and CDR3 of the heavy chain of monoclonal 1D9 antibody and a framework region derived from a human heavy chain framework region, and a suitable carrier.
158. (Previously presented) A pharmaceutical composition according to Claim 157 wherein the human heavy chain framework region is the heavy chain framework region of the 4B4'CL antibody.
159. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a light chain comprising the amino acid sequence of SEQ ID NO: 12 and a heavy chain comprising the amino acid sequence of SEQ ID NO: 17.
160. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a light chain having the amino acid sequence of SEQ ID NO: 106 and a heavy chain having the amino acid sequence of SEQ ID NO: 104.

161. (Previously presented) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a light chain comprising the amino acid sequence of SEQ ID NO: 12 and a heavy chain comprising the amino acid sequence of SEQ ID NO: 17, and a suitable carrier.
162. (Previously presented) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a light chain having the amino acid sequence of SEQ ID NO: 106 and a heavy chain having the amino acid sequence of SEQ ID NO: 104, and a suitable carrier.
163. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9, a light chain framework region derived from the light chain of the HF-21/28 antibody, and a heavy chain framework region derived from the heavy chain of the 4B4'CL antibody.
164. (Previously presented) An antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody.

165. (Previously presented) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising an antigen binding region from monoclonal antibody 1D9, a light chain framework region derived from the light chain of the HF-21/28 antibody, and a heavy chain framework region derived from the heavy chain of the 4B4'CL antibody, and a suitable carrier.
166. (Previously presented) A pharmaceutical composition comprising an antigen binding fragment of a humanized immunoglobulin having binding specificity for CC-chemokine receptor 2 (CCR2), said immunoglobulin comprising a heavy chain and a light chain, wherein said light chain comprises three complementarity determining regions from the light chain of monoclonal antibody 1D9 and a framework region derived from the light chain of the HF-21/28 antibody, and wherein said heavy chain comprises three complementarity determining regions from the heavy chain of monoclonal antibody 1D9 and a framework region derived from the heavy chain of the 4B4'CL antibody, and a suitable carrier.